COASTAL CONSERVANCY

Staff Recommendation
March 26, 2015

CARDIFF STATE BEACH LIVING SHORELINE CONCEPTUAL PLAN

Project No. 15-003
Project Manager: Megan Cooper

RECOMMENDED ACTION: Authorization to disburse up to $150,000 to the City of Encinitas for the development of conceptual dune restoration alternatives at Cardiff State Beach, County of San Diego.

LOCATION: San Elijo Lagoon, City of Encinitas, County of San Diego (Exhibit 1).

PROGRAM CATEGORY: Resource Enhancement

EXHIBITS

Exhibit 1: Project Location Map

Exhibit 2: Photos of Proposed Project Area and Design

Exhibit 3: Project Letters

RESOLUTION AND FINDINGS:

Staff recommends that the State Coastal Conservancy adopt the following resolution pursuant to Sections 31111, 31113 and 31251-31270 of the Public Resources Code:

"The State Coastal Conservancy hereby authorizes the disbursement of up to one hundred fifty thousand dollars ($150,000) to the City of Encinitas ("City") to develop conceptual dune restoration alternatives at Cardiff State Beach. Prior to the disbursement of funds, the City shall submit for the review and written approval of the Conservancy's Executive Officer a work program, including budget and schedule, and any contractors to be employed for these work program tasks."

Staff further recommends that the Conservancy adopt the following findings:

"Based on the accompanying staff report and attached exhibits, the State Coastal Conservancy hereby finds that:

1. The proposed authorization is consistent with Chapter 3 of Division 21 of the Public Resources Code regarding funding feasibility studies and plans and addressing impacts of

climate change, and with Chapter 6 of Division 21 of the Public Resources Code, regarding resource enhancement.

2. The proposed project is consistent with the current Conservancy Project Selection Criteria and Guidelines."

PROJECT SUMMARY:

Staff recommends that the Conservancy authorize the disbursement of up to $150,000 to the City of Encinitas ("City") to develop conceptual dune restoration alternatives at Cardiff State Beach. The proposed restoration plan will investigate a "living shoreline" approach, which will both restore a heavily-impacted habitat and will also provide natural sea-level rise adaptation by protecting a vulnerable segment of Cardiff State Beach. The plan will propose to construct eight acres of beach dunes from exported materials generated from the adjacent San Elijo Lagoon Restoration Project ("SELRP"). The plan will consist of project design, environmental analysis and document preparation, permit applications, and the collection of dune plant seeds to facilitate future restoration.

Coastal dunes are a valuable habitat type in Southern California that supports several endangered plants and birds. In addition, dunes can reduce coastal storm damage during extreme storms by buffering the shoreline from waves and tides. But dunes have been heavily-impacted by coastal development and very little of this habitat type remains in Southern California.

In many areas, the Pacific Coast Highway ("Coast Highway") was built in areas that were once coastal dune habitat. The Coast Highway is critical infrastructure for the City, connecting it with other cities to the North and South. It handles approximately 20,000 vehicle trips per day, allowing public access to the City's many beaches and coastal resources. The southernmost shoreline segment in the City has been identified as being extremely vulnerable to projected rates of sea-level rise. The area consists of a low-lying barrier spit fronting the San Elijo Lagoon on which the Coast Highway and numerous utility corridors are located. The land also provides critical protection to the San Elijo Lagoon from coastal overwash. Coast Highway has been damaged and flooded on numerous occasions in the past as a result of extreme wave events and high tides. Increased water levels associated with projected sea-level rise would result in increased frequency and severity of flooding and damage to the highway.

The proposed plan will investigate the appropriate design and approach for restoring historic dunes along Coast Highway at Cardiff State Beach. Implementation of the proposed plan would potentially reduce the vulnerability of Coast Highway, San Elijo Lagoon, and other coastal infrastructure and natural resources to sea level rise. In addition, dune restoration would restore a habitat that has been severely impacted in this area. The eventual construction of the project would see significant cost savings through utilization of approximately 100,000 cubic yards of beach-compatible material from the SELRP.

Specific tasks for this project include conceptual alternative development, seed collection and bulking, environmental analysis and document preparation and permit applications. The

conceptual alternative development will include outreach meetings with relevant stakeholders and the public, collection and assimilation of existing data, and dune concept development. The dune concepts would focus on constructability, sustainability, and resilience while maintaining project goals and objectives. Variations in dune design among the concepts may include alternate dune crest elevations, planting arrangements (i.e. perennial anchoring versus native dune plants), sand fence design, or inclusion of a cobble toe protection. Maintenance needs and strategies for adaptive management will be identified for each of the alternatives. Site protection and outreach and interpretation will also be addressed in this task. Fencing would be used to demarcate the boundary of the restoration area. Symbolic fencing may be used to correlate with the permanent outreach and education signage with the goal of deterring human disturbance of the site. Dune concept development will include schematic plan views, sections, and cost estimates for each of the alternatives. The preferred alternative will be designed to the 30% level, once identified by the project team and stakeholders.

An environmental document will be prepared to analyze and communicate the potential significant impacts associated with the proposed project. This document would utilize existing environmental information from the site derived from Encinitas / Solana Beach Shoreline Feasibility Study Environmental Impact Statement (EIS), the SELRP Environmental Impact Report (EIR)/EIS and the City of Encinitas Opportunistic Beach Fill Mitigated Negative Declaration (MND). Determining the appropriate environmental document needed for this project is part of this task. Draft and final environmental documents will be the deliverables for this task.

The proposed project also includes coordinating the application to acquire necessary permits. Permits identified include a Coastal Development Permit (processed under the City's Local Coastal Plan) and a right-of-entry permit from the California Department of Parks and Recreation. Other potential permits (contingent on the seaward terminus of the dune design) include Sections 10 and 404 Permit (U.S. Army Corps of Engineers), 401 Certification (Regional Water Quality Control Board) and lease of state lands (California State Lands Commission). A mean high tide line survey is included in this task to delineate this boundary along the project site.

Simultaneous with development of project alternatives, collection of native coastal dune plant seeds will take place as soon as possible in order to generate sufficient seed for the proposed dune planting. Seed will be collected within San Elijo Lagoon, and possibly neighboring lagoons, over multiple seasons. Collected seed will also be bulked (planted in order to generate more seed) at a local native plant nursery in parallel to the seed collection efforts.

While the project area is fairly large (eight acres), this type of project is relatively new and innovative for California. The proposed plan will investigate the amount of shoreline protection that would be gained through reduction of wave energy and the appropriate design to maximize both habitat value and shoreline protection. The City will also consider the need for scientific monitoring as part of the development of restoration alternatives for this project, but development of the scientific monitoring and data sharing program will be part of the next phase of work. A rigorous monitoring program will facilitate sharing the lessons learned from this project with other local agencies throughout the State.

The City is a successful partner with the Conservancy. Most recently, the City implemented the Cottonwood Creek Restoration Project, which was completed in 2005. In addition, the City has formed a partnership with the San Elijo Lagoon Conservancy (SELC), a current and long-time partner of the Conservancy, to implement this project. The City will provide the project management, administration, engineering, and planning, while the SELC will provide the dune biologists. SANDAG and the California Department of Parks and Recreation will also be members of the project team.

Site Description: The project area is located at Cardiff State Beach in the City of Encinitas (Exhibit 1). The project area extends from the south end of Restaurant Row to the north end of the Seaside State Park parking lot (Exhibit 2). The project area straddles the Swami's State Marine Conservation Area (SMCA) and the San Elijo Lagoon SMCA, both managed by the California Department of Fish and Wildlife. The project area consists of the back beach portion of Cardiff Beach, which is owned and managed by California Department of Parks and Recreation. The design of the restoration alternatives will include analysis of proper location for the dunes within the project area.

Project History: The Conservancy has been working with the SELC on the restoration and management of San Elijo Lagoon for over 25 years. We are currently the contract administrator for the SELRP, we partially funded the preliminary engineering for that project, and we have been on the stakeholder group for seven years. The SELRP will include the export of approximately one million cubic yards of beach-compatible materials over ten months. A number of beneficial re-use options are being considered for the placement of sediment including beach nourishment and nearshore placement. Other less desirable options are also being considered such as disposal offshore at the LA-5 site and at SANDAG borrow pits. The proposed project complements the SELRP by providing a beneficial reuse placement site for approximately one hundred thousand cubic yards of export materials generated during construction. The proposed project also compliments the SELRP by investigating options for protecting the estuary, and the restoration project, from sea level rise.

The proposed project is related to and generally consistent with the Seaside Terrace Dune Plant Restoration Project, which was recently completed by SELC. The proposed project is directly adjacent to the Seaside Terrace project, and SELC's involvement in both projects would allow for consistency between both projects.

PROJECT FINANCING

Coastal Conservancy Funds	$150,000
Project Total	**$150,000**

The expected source of Conservancy funds for this project is an appropriation to the Conservancy from the Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Bond Act of 2006 (Proposition 84, Public Resources Code sections 75001et seq.). This funding source may be used for the protection of coastal watersheds in San Diego

County. Proposition 84 allows for the utilization of funds for expenditures pursuant to Division 21 of the Public Resources Code, as specified in Section 75060(b), and for projects that protect San Diego Bay and adjacent watersheds, as specified in Section 75060(f). As specified in Section 75072.6, for purposes of Section 75060(f), "San Diego Bay and adjacent watersheds" includes the coastal and bay watersheds within San Diego County. Pursuant to Section 75060(b), funds may be allocated to the improvement and protection of coastal and marine water quality and habitats, so long as the project is compliant with Division 21 of the Public Resource Code. Section 75701 provides for giving priority to restoration projects that meet one or more of a list of factors. Consistent with Section 75071(e), the City will contribute approximately $50,000 in in-kind services to administer the grant and manage the project.

CONSISTENCY WITH CONSERVANCY'S ENABLING LEGISLATION:

The proposed project would be undertaken pursuant to Chapter 3 of the Conservancy's enabling legislation, Public Resource Code, Sections 31111, and 31113, and Chapter 6 Sections 31251-31270.

Section 31111 permits the Conservancy to award grants to public agencies for the purpose of funding and undertaking plans and feasibility studies.

Section 31113 permits the Conservancy to address the impacts and potential impacts of climate change on resources within its jurisdiction. Pursuant to this authorization, the proposed project will develop a natural solution for adapting to address sea level rise.

Consistent with Section 31251 of the Public Resources Code, the proposed project would award a grant to a public agency to undertake activities necessary for the enhancement of the natural resources of Southern California, which has been impacted by indiscriminate dredging and filling, improper location of improvements, human-induced events, and incompatible land uses and has suffered the loss of natural and scenic values. The proposed project is intended to assist the Conservancy in meeting its purposes and objectives under this section by increasing the feasibility, cost-effectiveness, and persistence of wetland restoration and enhancement projects in Southern California's coastal zone and coastal watersheds. The City's work on this project will help to develop innovative sea level rise adaptation strategies that provide multiple benefits. The City is a local public agency within the meaning of Public Resources Code Section 31010, which may enter into an agreement with the Conservancy to carry out the recommended authorization.

Section 31253 permits the Conservancy to provide up to the total cost of any coastal resource enhancement project, consistent with established project eligibility and priority factors. In determining the amount of Conservancy funding for this project, the factors identified in Section 31253 have been considered and applied, as described in detail below, under the heading "Consistency With Conservancy's Project Selection Criteria & Guidelines".

CONSISTENCY WITH CONSERVANCY'S 2013 STRATEGIC PLAN GOAL(S) & OBJECTIVE(S):

Consistent with **Goal 5, Objective A** of the Conservancy's 2013-2018 Strategic Plan, the proposed project will develop a plan for the restoration of coastal dunes.

Consistent with **Goal 7, Objective B**, the proposed project will develop an adaptation strategy to address threats to coastal communities and public infrastructure in a way that protects natural resources and provides maximum public benefits.

CONSISTENCY WITH CONSERVANCY'S PROJECT SELECTION CRITERIA & GUIDELINES:

The proposed project is consistent with the Conservancy's Project Selection Criteria and Guidelines, last updated on October 2, 2014, in the following respects:

Required Criteria

1. **Promotion of the Conservancy's statutory programs and purposes:** See the "Consistency with Conservancy's Enabling Legislation" section above.
2. **Consistency with purposes of the funding source:** See the "Project Financing" section above.
3. **Promotion and implementation of state plans and policies:** The proposed project is consistent with the following state plans and policies promoting global climate change resilience and adaptation:
    a. The project implements *California @ 50 Million: The Environmental Goals and Policy Report* (Governor's Office of Planning and Research, 2013 Draft) by pursuing the action to invest in climate adaptation pilot programs, tools and approaches.
    b. The project aligns with the goals listed in the *CA Climate Adaptation Strategy/Safeguarding California: Reducing Climate Risk Plan* (CA Natural Resources Agency, July 2014) by implementing an innovative shoreline management project. The proposed project will provide insight into managing shorelines in the era of rising sea levels and storm surges.
    c. The project will implement the *Regional Strategy* for the Southern California Wetlands Recovery Project (2001) by restoring dunes to buffer wetland habitat.
4. **Support of the public:** The project is supported by a number of elected officials and community organizations. See Exhibit 3 for support letters.
5. **Location:** The proposed project would be located within the coastal zone at Cardiff State Beach between the cities of Encinitas and Solana Beach.
6. **Need:** The stretch of Coast Highway at Cardiff State Beach, which provides coastal access for about 20,000 users each day, is already affected by coastal erosion and wave overtopping. With predicted rates of sea level rise, the impacts to this highway are predicted to increase. The City wants to investigate the use of natural solutions for shoreline protection, such as dune restoration, instead of waiting until natural solutions might be too late and hard structures are used instead. The City does not having the funding available for this kind of project and this project will not occur without Conservancy funding.

7. **Greater-than-local interest:** Developing and implementing living shorelines projects is of interest for the entire State. The information gathered from this project will allow us to replicate projects like this throughout the State.
8. **Sea level rise vulnerability:** Coast Highway at Cardiff State Beach is highly vulnerable to sea level rise because of its location on the coast. This project will investigate an innovative method for the City to protect built and natural infrastructure from sea level rise, while also restoring habitat.

Additional Criteria

9. **Urgency:** The proposed project is urgent as threats of SLR continue to increase in California's coastal zones. In addition, the SELRP is on schedule to begin construction in January 2016. The SELRP will be a low-cost source of beach sand for restoring dunes along Coast Highway. The City must develop the conceptual alternatives, complete CEQA and permitting and complete engineering prior to construction for the SELRP begins, in order to take advantage of the availability of beach sand.
10. **Leverage**: The City will provide approximately $50,000 of in-kind services for the project of City staff time. In addition, implementation of the proposed project is estimated to save approximately $1,000,000 by receiving sand from the SELRP.
12. **Innovation**: Living shorelines projects, such as the one proposed, are an innovative approach to sea level rise adaptation.
13. **Readiness**: The project team is ready to begin working on specific tasks as soon as the funding is approved.
14. **Realization of prior Conservancy goals**: "See "Project History" above
16. **Cooperation**: The City, the SELC, the Department of Parks and Recreation and SANDAG have coordinated in the development of the project, and will work together in the development and implementation of the plan. See attached letters of support (Exhibit 4).
17. **Vulnerability from climate change impacts other than sea level rise:** This project will not be particularly vulnerable to climate change impacts other than sea level rise.

CONSISTENCY WITH LOCAL COASTAL PROGRAM POLICIES:

The California Coastal Commission and Ocean Protection Council are currently undertaking a large effort to support local governments in planning for sea-level rise and climate change, and developing new or updating existing Local Coastal Programs ("LCP"), consistent with the California Coastal Act. The City of Encinitas is currently updating its LCP to incorporate climate change effects.

This project is consistent with the City's current LCP in its goals to undertake programs to ensure that coastal areas are maintained and remain safe and scenic for both residents and wildlife, and to preserve the integrity, function, productivity and long-term viability of environmentally-sensitive habitats throughout the City.

COMPLIANCE WITH CEQA:

The proposed project is statutorily exempt from the provisions of CEQA under 14 California Code of Regulations, Section 15262 exempting feasibility studies for possible future actions that the Conservancy has not approved, adopted or funded and which do not require preparation of an EIR or negative declaration. Staff will file a Notice of Exemption upon approval of the proposed authorization.